IN THE CLAIMS:

1-12. (Cancelled)

13. (Previously presented): A method for detecting a single nucleotide polymorphism comprising:

a) providing at least one primer pair, said primer pair containing a reverse primer and a forward primer comprising a 3' end specific for an allele of a single nucleotide polymorphism of interest and a hybridization tag that identifies the primer, said hybridization tag not complementary to the sequence containing said single nucleotide polymorphism of interest;

b) combining said at least one primer pair with a sample containing single-stranded polynucleotides under stringent conditions which allow hybridization of said primers to complementary sequences in said single-stranded polynucleotides;

c) extending hybridized primers by primer extension to produce an extension product wherein said extension product comprises said hybridization tag and a detectable label;

d) hybridizing said extension products by said hybridization tag or the complement thereof under stringent conditions to a capture probe wherein said capture probe is coupled to a microbead, said microbead identifying said capture probe;

e) detecting by flow cytometry the hybridization of said extension product to said capture probe by the presence of said detectable label; and

f) determining the identity of said single nucleotide polymorphism based on the identity of said microbead.

14. (Original): The method of claim 13, wherein said reverse primer comprises said detectable label.

15. (Original): The method of claim 14, wherein said reverse primer pair is a universal reverse primer.

16. (Original): The method of claim 13, wherein c) is repeated at least once.

17. (Original): The method of claim 13, wherein said at least one primer pair comprises a plurality of primer pairs specific for a plurality of single nucleotide polymorphisms.

18. (Canceled)

19. (Original): A method for diagnosing a disease, condition, disorder or predisposition in a subject comprising, obtaining a biological sample containing at least one polynucleotide from said subject and analyzing said at least one polynucleotide to detect the presence or absence of a single nucleotide polymorphism by the method of claim 13, wherein said single nucleotide polymorphism is associated with a disease, condition, disorder or predisposition.

20. (Previously presented): A method for detecting a single nucleotide polymorphism comprising:

a) providing at least one group of at least 2 primers in each group, wherein each primer in said group comprises a hybridization tag that identifies said primer, and each primer in said group having a 3' end specific for a different allele of a single nucleotide polymorphism of interest;

b) combining said at least one group of primers with a sample containing single-stranded polynucleotides under stringent conditions which allow hybridization of said primers to complementary sequences in said single-stranded polynucleotides;

c) extending hybridized primers by primer extension to produce an extension product, said extension product comprising said hybridization tag and a detectable label;

d) hybridizing said extension product by said hybridization tag under stringent conditions to a capture probe, said capture probe is coupled to a microbead that identifies said capture probe;

e) detecting by flow cytometry the hybridization of said extension product to said capture probe using said detectable label; and

f) determining the identity of said single nucleotide polymorphism based on the identity of said microbead.

21. (Canceled)

22. (Canceled)

23. (Previously presented): The method of claim 20 further comprising a plurality of said primer groups, each primer group specific for a different single nucleotide polymorphism of interest.

24. (Canceled)

25. (Previously presented): The method of claim 20, wherein said primer extension is a single base primer extension.

26. (Original): The method of claim 25, wherein said single base extension is achieved by using only a single type of nucleoside triphosphate.

27. (Original): The method of claim 25, wherein said single base extension is achieved by using at least one-chain terminating nucleoside triphosphate.

28. (Previously presented): The method of claim 27, wherein said chain-terminating nucleoside triphosphate is a dideoxynucleoside triphosphate.

29. (Original): The method of claim 25, wherein said single base extension is achieved by using a plurality of chain-terminating nucleoside triphosphates, each comprising a unique label.

30. (Previously presented): The method of claim 29, wherein said chain-terminating nucleoside triphosphates are dideoxynucleoside triphosphates.

31. (Original): A method for diagnosing a disease, condition, disorder or predisposition in a subject comprising, obtaining a biological sample containing at least one polynucleotide from said subject and analyzing said at least one polynucleotide to detect the presence or absence of a single nucleotide polymorphism by the method of claim 20, wherein said single nucleotide polymorphism is associated with a disease, condition, disorder or predisposition.

32-35. (Canceled)

Please add the following new claim:

36. (New): A method for detecting a single nucleotide polymorphism comprising:

a) providing at least one primer pair, said primer pair containing a

reverse primer comprising a hybridization tag that identifies the primer, said hybridization tag not complementary to the sequence containing said single nucleotide polymorphism of interest, and a forward primer comprising a 3' end specific for an allele of a single nucleotide polymorphism of interest;

b) combining said at least one primer pair with a sample containing single-stranded polynucleotides under stringent conditions which allow hybridization of said primers to complementary sequences in said single-stranded polynucleotides;

c) extending hybridized primers by primer extension to produce an extension product wherein said extension product comprises said hybridization tag and a detectable label;

d) hybridizing said extension products by said hybridization tag or the complement thereof under stringent conditions to a capture probe wherein said capture probe is coupled to a microbead, said microbead identifying said capture probe;

e) detecting by flow cytometry the hybridization of said extension product to said capture probe by the presence of said detectable label; and

f) determining the identity of said single nucleotide polymorphism based on the identity of said microbead.